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| 10/688,859 | 10/17/2003 | Goran W. Sundholm | U 014861-2 | 9454 |

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| EXAMINER | |
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**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Application Number: 10/688,859
Filing Date: October 17, 2003
Appellant(s): SUNDHOLM, GORAN W.



William R. Evans
For Appellant

**SUPPLEMENTAL EXAMINER'S ANSWER**

This is in response to the appeal brief filed January 17, 2006 appealing from the Office action mailed May 17, 2005.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

| | | |
|---|---|---|
| 5,117,916 | Ohta et al. | 06-1992 |

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-3, 6-8, 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohta et al. (5,117,916).

Regarding claim 1,

Ohta discloses a fire-fighting installation comprising:

a drive source 42 for feeding medium (water) into at least one spray head 10, the at least one spray head 10 releasing by impact of heat (heat sensitive portion 24), and the drive source 42 comprising a pump unit 42 for the feeding of the medium (water) through a supply line (20, 44, water main pipe), wherein;

at least a portion (20, 44) of the supply line (20, 44, water main pipe) is filled with gas (air from compressor 50) provided with a standby pressure (see column 3, line 65 through column 4, line 6);

a gas source 50 maintains the standby pressure; and

a flow transducer 52, 58 is arranged to provide a signal to the pump unit 42 if flow of the gas (air) in the portion (20, 44) of the supply line (20, 44, water main pipe) exceeds a predetermined value (pressure reduction, i.e., when the pressure exceeds a pre-determined range by dropping below a set limit; see column 4, lines 7-13 and column 5, lines 2-10; pressure switch 58 indirectly detects the initial pressure drop in lines 20 and 44).

The pressure reduction measured by Ohta indirectly measures flow of gas (air) in lines 20 and 44. In order for the pressure to drop in lines 20 and 44, there must

be flow of gas in lines 20 and 44, i.e., the gas flow through sprinkler 10 and valves 48, 46 causes the pressure reduction in lines 20, 44.

Regarding claim 2,

Ohta further discloses that the spray head 10 is arranged to spray mist (a spray head inherently produces a spray mist).

Regarding claim 3,

Ohta further discloses that the gas source 50 is a pressure accumulator (compressor 50 and piping upstream of pressure switch 52) connected to said portion (20, 44) of the supply line (20, 44, water main pipe) and which controlled by a first pressure a first pressure switch 52 attached to the output of the pressure accumulator (compressor 50 and piping upstream of pressure switch 52) is arranged to feed gas (air) to the supply line (20, 44, water main pipe) in case the pressure of the supply line (20, 44, water main pipe) drops below a certain first value (pressure reduction; see column 4, lines 1-6) in order to maintain the standby pressure.

The gas source 50 is controlled by the first pressure switch in that the receiver 60 opens valve 46 to release pressure in line 44. The gas source 50 is arranged to feed gas to the supply line (20, 44) through a check valve 41 to maintain the standby pressure. The check valve 41 allows one way passage of air to maintain pressure in line 20, 44.

In considering claim 3, appellant's flow transducer is readable on Ohta's pressure switch 58 and appellant's first pressure switch is readable on Ohta's pressure switch 52.

Regarding claim 6,

Ohta further discloses that the medium is water (water source 14).

Regarding claim 7,

Ohta further discloses that the portion (20, 44) of the supply line (20, 44, water main pipe) is liable to freeze. The claim merely requires the ability to freeze. The supply line (20, 44, water main pipe) of Ohta can freeze if the temperature drops below freezing.

Regarding claim 8,

Ohta discloses a drive source comprising:

a pump unit 42 for feeding liquid (water) through a supply line (20, 44, water main pipe);

a portion (20, 44) of the supply line (20, 44, water main pipe) being filled with gas (air) having a standby pressure (steady monitor state; see column 3, line 67);

a gas source 50 for maintaining the standby pressure (steady monitor state) of the supply line (20, 44, water main pipe);

a sensor 52, 58 arranged to provide a signal to start the pump unit 42 in response to a change occurring in the state of the medium (water) in the supply line (20, 44, water main pipe);

wherein the sensor 52, 58 is a flow transducer arranged to provide a signal (through receiver 60 and/or pump control panel 54) to the pump unit 42 if flow of the gas (air) in the portion (20, 44) of the supply line (20, 44, water main pipe)

exceeds a certain predetermined value (pressure reduction, i.e., when the pressure exceeds a pre-determined range by dropping below a set limit; see column 4, lines 7-13 and column 5, lines 2-10; pressure switch 58 indirectly detects the initial pressure drop in lines 20 and 44).

The pressure reduction measured by Ohta indirectly measures flow of gas (air) in lines 20 and 44. In order for the pressure to drop in lines 20 and 44, there must be flow of gas in lines 20 and 44, i.e., the gas flow through sprinkler 10 and valves 48, 46 causes the pressure reduction in lines 20, 44.

Regarding claim 10,

Ohta further discloses that the medium is water (water source 14), whereby the pump unit 42 is arranged to feed water into the supply line (20, 44, water main pipe).

Claims 4, 5, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta et al. (5,117,916).

Regarding claim 4, Ohta discloses the limitations of the claimed invention with the exception of a second pressure switch. Providing a second pressure switch is a mere duplication of parts. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided a second pressure switch in the device of Ohta, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.

Adding a second pressure switch 52 as a backup pressure switch would inherently meet the function recitation because the system would maintain the second value (steady monitor state) as long as the switch is not actuated.

Regarding claim 5, Ohta discloses the limitations of the claimed invention with the exception of nitrogen. Nitrogen is well known in the art for being an inert gas. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have replaced the air of Ohta with nitrogen to prevent oxidation. It is also noted that air is approximately 78% nitrogen. Claim 5 does not preclude the gas from containing other gases. Appellant uses the transitional phrase "comprising."

**(10) Response to Argument**

Appellant's entire argument centers on the meaning and interpretation of the term "flow transducer." Appellant argues that he is entitled to be his own lexicographer and that the term "flow transducer" should be differentiated from the term "pressure switch" because "pressure switch" is later used in the claims, i.e., claim 3.

Appellant need not confine himself to the terminology used in the prior art, but is required to make clear and precise the terms that are used to define the invention whereby the metes and bounds of the claimed invention can be ascertained. During patent examination, the pending claims must be given the broadest reasonable interpretation consistent with the specification. See MPEP 2173.05(a).

The specification provides no clear and precise define of the term "flow transducer." For example, appellant's specification, paragraph 14 merely states

> The flow transducer 2 is selected so as not to provide the pump unit 5 with a signal as a result of the flow caused by the minor gas leaks. Instead what is required for sending a signal to the pump unit is that the flow transducer notes a flow that exceeds a certain predetermined minimum value, which in practice is very small.

Appellant's specification merely provides a functional task of the flow transducer in that it "notes a flow that exceeds a certain predetermined minimum value." Therefore, the term "flow transducer" has been given the broadest reasonable interpretation which "notes a flow that exceeds a certain predetermined minimum value.

Appellant is persistent in asserting that a pressure switch cannot be a "flow transducer" but he fails to define or limit what may constitute a "flow transducer," other than by functional recitation. Independent claims 1 and 8 functionally define the "flow transducer" as

> ...arranged to provide a signal to the pump unit if flow of the gas in the portion of the supply line exceeds a certain predetermined value.

Even if appellant has invoked a clear and precise definition for the term "flow transducer," he has given the term a broader meaning than what may conventionally be considered a flow transducer. Any device that performs the function can be considered a "flow transducer."

The pressure reduction measured by Ohta indirectly measures flow of gas (air) in lines 20 and 44. It measures the flow of air in lines 20, 44 that would result in a pressure drop that would trigger pressure switches 52, 58. In order for the pressure to drop in lines 20 and 44, there must be flow of gas in lines 20 and 44 that exceeds a certain predetermined minimum value, i.e., the gas flow through sprinkler 10 and valves

48, 46 which exceeds gas flow into check valve 41 that would cause the pressure reduction in lines 20, 44 to trigger pressure switches 52, 58. Ohta's pressure drop is indicative of the flow of gas (air) in lines 20, 44. Therefore, Ohta's pressure switch 52 or pressure switch 58 is able to meet the functional requirement of appellant's "flow transducer."

Even if "flow transducer" is given its plain meaning, Ohta's pressure switch complies with the literal definition of a flow transducer. The terms "flow" and "transducer" are defined as

> flow - to move or run smoothly with unbroken continuity, as in the manner characteristic of a fluid
> transducer - a substance or device, such as a piezoelectric crystal, microphone, or photoelectric cell, that converts input energy of one form into output energy of another

Ohta uses a pressure switch 52, 56 to convert sensed pressure to into an electrical signal which is also indicative of the flow in supply line (20, 44, water main pipe).

Appellant's second contention that a pressure switch cannot meet the limitation of a "flow transducer" because the term "pressure switch" is later used in the claims holds no merit. Take for example, a claim that recites: an apparatus comprising a light source and a heat source. A prior art that disclose a device having two candles surely teaches the claimed device. The first candle can be considered a light source. Candles are routinely used for light during an electrical power failure. The second candle can be considered a heat source. An open flame inherently produces heat. Therefore, the same item is capable of meeting two distinct limitations.

Appellant merely provides a functional requirement for a "flow transducer" but now appears to be arguing a structural difference between a "flow transducer" and a "pressure switch," although he provides no structural definition to differentiate the two except to assert that a pressure switch cannot be a flow transducer. The claimed invention does not structurally define a "flow transducer" to preclude Ohta's pressure switch 52, 56.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Christopher S. Kim

Conferees:

Dave Scherbel

Eric Keasel

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Respectfully submitted,

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